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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,355	11/14/2001	Sergio Spreafico	05788.0190	6951

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EXAMINER

PATEL, ISHWARBHAI B

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,355

Applicant(s)

SPREAFICO, SERGIO

Examiner

Ishwar (I. B.) Patel

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P r i d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16,17 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-22 and 24-30 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on June 25, 2003. These drawings are approved.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 19-20, 24 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujikami et al., US Patent 5,932,523, hereafter, Fujikami.

Regarding claim 19, Fujikami discloses a cable comprising at least one layer of tapes of superconducting material circumferentially wound side by side on a support at a prefixed distance so that gapes are circumferentially formed between adjacent tapes, wherein a non-superconducting material is interposed between the adjacent tapes to partially fill the gaps (superconducting tape 71, 71' wound around core member 55 with a gap partially filled by insulating material 70, see figure 5-7, column 6, line 5-55).

Regarding claim 20 and 24, Fujikami further discloses the non-superconducting material is a tape and made of plastic, see figure 7, column 6, line 58-65.

Regarding claim 27, Fujikami further discloses the non-superconducting material wound on the underlying super conducting tape and alternated with the tapes of superconducting material, column 6, line 4-25 and 55-57.

1. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikami et al., US Patent 5,932,523, hereafter, Fujikami, as applied to claims 19-20 above.

Regarding claims 21-22, the applicant is claiming the thickness of the non-superconductive material in relation to the thickness of the superconductive tape.

Fujikami fails to disclose the details of the thickness of insulating tape in relation to superconductive tape.

However, the crux of the invention of Fujikami is to provide the insulation between the adjacent superconductive tapes and to avoid the edge-to-edge connection of superconductive tapes, column 6, line 29-55.

Further, the thickness of the insulating tape will depend upon the mechanical strength of the tape and the degree of insulation required between the adjacent superconducting tape wound on the top of the insulating tape on other layer, as well the adjacent tape on the same layer and a person of ordinary skill in the art will decide the thickness to have desired mechanical strength and degree of insulation.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the structure of Fujikami with thickness of

the tape as claimed in claims 21 and 22 in order to provide desired insulation between the edges of the superconductive tapes.

Regarding claim 28, Fujikami further discloses the cable for power transmission and for that matter it can be used for any current transmission system.

2. Claims 25, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikami et al., US Patent 5,932,523, hereafter, Fujikami, as applied to claims 19-24 above, and further in view of Ando et al., US Patent No. 6,034,588, hereafter, Ando.

Regarding claims 25 and 26, the applicant is claiming the non-conducting material has magnetic characteristics at an operative temperature and made of either copper, or silver, or gold, copper alloy, silver alloy and gold alloy material.

Fujikami fails to disclose the non-superconducting material with a magnetic characteristic.

Ando discloses a non-superconductive material with a magnetic characteristic between the superconductive materials for improving the quality of critical current value.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the modified structure of Fujikami with the non-superconducting material with a magnetic characteristic and of the material as claimed, as taught by Ando, in order to have the superconducting cable with improved quality of critical current value.

Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125, USPQ.

3. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikami et al., US Patent 5,932,523, hereafter, Fujikami, as applied to claims 19-24 above, and further in view of Vulis et al., US Patent 4,184,042.

Regarding claim 29, the applicant is claiming two superconductors, a phase and a return conductor with tapes of superconducting materials.

Fujikami fails to disclose such cable with phase and return conductor.

Vulis discloses such structure for carrying alternating current in superconducting transmission systems.

A person of ordinary skill in the art, depending upon the specific requirement, would implement the structure of Vulis into the structure of Fujikami in order to have the desired functionality.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the modified structure of Fujikami with a phase and return conductor, as taught by Vulis, in order to have desired functionality.

Regarding claim 30, the modified assembly of Fujikami discloses all the features of the claimed invention as applied to claim 19 and 29 above, including a non-

conductive material present among at least one of the tapes of superconducting material.

Allowable Subject Matter

4. Claim 23 would be allowable if rewritten in the independent form to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed June 25, 2003 have been fully considered but they are not persuasive.

Applicant argues that applied prior art of Fujikami does not teach or suggest partially filled gaps because insulation 50 is filling the gap. This argument is not persuasive because the claim recites that a gap is formed between adjacent tapes, wherein the non-superconductive material is interposed between the adjacent tapes to partially fill the gaps.

As seen in figure 5-7, the insulation tape 70 is partially filling the gap between the adjacent superconductors. There is nothing precluding the existence of other insulating material filling the gap. The claim is an open-ended claim with a "comprising" transitional phrase.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (8:30 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308 1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305 3900.

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10/19/03

Vinh P. Nguyen
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PRIMARY EXAMINER
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10/15/03